

Removal of Soot Particles from the Exhaust of a Diesel Engine

Abstract

The present invention is directed to the removal of soot particles from the exhaust of a diesel engine. A device is provided that comprises a wall-flow filter having inflow channels and outflow channels, which are connected by pores. Preferably the inflow channels and outflow channels are alternately closed on opposite sides. The flow channels that are closed on the outflow side form the inflow channels and the flow channels that are closed on the inflow side form the outflow channels of the filter. In the inflow channels and/or the outflow channels of the filter, exhaust treatment structures are provided. The walls of the flow channels, as well as the exhaust treatment structures, are preferably coated with a catalyst layer. Since the exhaust does not need to flow through these exhaust treatment structures, the catalyst deposited thereon is not covered by soot. The filter function and the catalytic function of the catalyst layer on the exhaust treatment structures are thus largely separated from one another. Advantageously, the different functions complement one another, so that a high degree of efficiency in the exhaust treatment is achieved despite the small mounting volume required by the inventive device.